REMARKS

The amendments set out above and the following remarks are believed responsive to the points raised by the Office Action dated September 26, 2001. In view of the amendments set out above and the following remarks, reconsideration is respectfully requested.

Several changes have been made in the specification to improve its form. These changes are essentially editorial in nature and do not constitute the addition of new matter. Claim 1 has been amended to correct a minor typographical error. No new matter has been added, the basis for the amended claim language may be found within the original specification, claims and drawings.

The drawings were objected to for failing to show various details described in the specification and for failing to show the contact section 540 being spaced from and no longer in contact with the contact section 546. The missing reference numbers have been added to the drawings to correspond to the specification and a new figure, Figure 13b2, has been added to more clearly illustrate contact section 540 being spaced from and no longer in contact with contact section 546. Accordingly, Applicants respectfully submit the objections to the drawings have been overcome.

Claims 1-4, 14-19, and 25-27 were rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 1 has been amended to change "downside" to "downstream" which was a typographical error. Thus, it is respectfully submitted that with this amendment to the claim, the basis for rejection of claims 1 and 14-19 under 35 U.S.C. §112 has now been overcome and should be withdrawn. Claims 3-4 and 25-27 were cancelled in a previous amendment, and therefore the rejection with regard to these claims is moot. Since no reason was given for the rejection of claim 2 under 35 U.S.C. §112, this rejection cannot be addressed.

It is noted that the Office Action indicates claim 1 would be allowable if amended to overcome the rejection under 35 U.S.C. §112. Accordingly, since claim 1 has been amended to overcome the rejection and although Applicants traverse the rejections, claims 2 and 20-24 have been cancelled in order to expedite matters and to allow the application to pass to issuance more quickly.

In view of the amendment and remarks recited herein, the application is considered in good and proper form for allowance, and the Examiner is respectfully requested to pass this application to issue.

Should there remain any issues outstanding, the Examiner is invited to call the undersigned at her Washington, D.C. office.

Respectfully submitted,

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RESPONSE UNDER 37 CFR 1.116
EXPEDITED PROCEDURE
EXAMINING GROUP 1723

PATENT
Attorney Docket No. 168567/PALL

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

CONNORS et al.

Application No. 09/091,508

Filed: October 30, 1998

For: SEPARATION ARRANGEMENT

Art Unit: 1723

Examiner: M. Ocampo

AMENDMENTS TO SPECIFICATION, CLAIMS, AND ABSTRACT MADE IN RESPONSE TO OFFICE ACTION DATED SEPTEMBER 26, 2001

Delete the paragraph beginning at page 3, line 21:

~~In accordance with a further aspect, the present invention is directed to a separation element for removing one separation element, where the separation element comprises a hollow pleated pack and first and second end caps. The hollow pleated pack includes a plurality of pleats, a retainer, first and second ends, and a porous medium. The plurality of pleats includes roots, crowns, legs extending between the roots and the crowns, an inner periphery at the roots defining an upstream side, and an outer periphery at the crowns defining a downstream side. Each pleat has a height greater than (D-d)/2 where D is the outer diameter at the outer periphery of the pleats and d is the inner diameter at the inner periphery of the pleats. The retainer is disposed around the pleats. The porous medium comprises a polymeric material or a glass fiber material. The hollow pleated pack is at least forty inches in length and has an interior diameter of at least two inches. Each end cap is connected to an end of the pack. One of the first and second end caps includes a seal having a larger outside diameter than the largest outside diameter of the hollow pleated pack and the other end cap. The end caps include a polymeric, thermoplastic or elastomeric material.~~

Amendments to the paragraph beginning at page 3, line 28:

In ~~accordance with a further aspect,~~ embodiments of the present invention ~~is directed to separation elements, where the~~ separation ~~element comprises~~ elements may comprise a pleated pack which includes a porous medium and a first end, and an end cap including a first segment and a second segment mounted to the first end of the pack. The pleated pack ~~includes a porous medium and a first end and~~ has a length greater than about forty inches and an interior diameter greater than about two inches. ~~The end cap includes a first segment and a second segment mounted to the first end of the pack.~~ The end cap first and second segments are arranged to slide with respect to one another. The end cap is extendable from a first position in which the first and second segments are spaced a first distance from each other to a second position in which the first and second segments move away from one another and are spaced a second distance from each other. The second distance is greater than the first distance, and the end cap maintains a fluid-tight seal in both positions.

Amendments to the paragraph beginning at page 4, line 9:

In ~~accordance with a further aspect,~~ embodiments of the present invention ~~is directed to,~~ separation elements ~~, where the separation element comprises~~ may comprise a pack, which includes a porous medium and a first end, and an end cap, which has a first segment, a second segment mounted to the first end of the pack, and a sealing member coupled to at least one of the first and second segments. The first segment is slidably engaged with the second segment such that the first segment is movable between first and second positions. In the first position, the sealing member is relaxed, and in the second position, the sealing member is compressed by the first and second segments and thereby energized and has an outer diameter greater than the outer diameter of the second segment of the end cap.

Amendments to the paragraph beginning at page 7, line 19:

Figure 13a, 13(b1), and ~~13b~~ 13(b2) are sectional views of an alternative embodiment of the filter assembly of the present invention.

Amendments to the paragraph beginning at page 24, line 16:

Because the filter pack 16 is formed from a material having a finite thickness (t) at the radially inner and outer ends of the pleats 56 where the filter pack 16 is folded back

upon itself to form the pleats 56, the pleats 56 may be somewhat rounded. As a result, at the radially inner ends of the pleats 56, small substantially triangular gaps 68 may be formed between the opposing internal surfaces of adjoining legs, and at the radially outer ends of the pleats 56, small substantially triangular gaps 70 may be formed between the opposing external surfaces 66 of adjoining legs 58 or between the internal surfaces of the legs of a pleat (not shown). However, in the present invention, the height of these gaps 68 and 70 as measured along the height of the pleats 56 is preferably extremely small. The height of the gaps 68 and 70 adjoining the inner diameter of the filter is preferably no more than approximately t and more preferably no more than approximately ½t, wherein t is the thickness of the material forming the filter pack 16, as illustrated in Figure 8. The height of the gaps 68 and 70 adjoining the outer diameter of the filter pack 16 is preferably no more than approximately 4t and more preferably no more than approximately 2t. As the pleats 56 are made sharper, i.e., the radially inner and outer ends thereof less rounded, the heights of the gaps 68 and 70 becomes smaller and the percentage of the volume between the inner and outer peripheries of the filter pack 16 which is available for filtration becomes greater.

Amendments to the paragraph beginning at page 39, line 19:

The first and second segments 522,524 may be connected together by interlocking the first and second flange-like members 532,542 in slidable engagement, wherein the first end cap 508 comprises an extendable end cap. In the exemplary embodiment, the first flange-like member 532 and the second flange-like member 542 are arranged such that the engagement lips 536,544 make contact with one another to prevent the first and second segments 522,524 from separating. However, the length of the first and second flange-like members 532,542 are such that there may be movement in the axial direction between the first and second segments 522,524. Essentially, the first segment 522 may be moved from a first position wherein the contact section 540 of the engagement lip 536 is in contact with the contact section 546 of the engagement lip 544 (Figure ~~13b~~ 13(b1)) to a second position wherein the contact section 540 is spaced from and no longer in contact with the contact section 546 (Figure ~~13a~~ 13(b2)). Accordingly, a first gap 550 of varying height and defining a substantially annular region may be formed between the sealing section 534 of the first segment 522 and the sealing section 548 of the second segment 524, and a second gap 552 of varying height may be formed between the contact section 540 of the engagement lip 536 of the first segment 522 and the contact section 546 of the engagement lip 544 of the second segment 524. The sealing member 526 may be positioned in the first

gap 550, and the length of the first and second flange-like members 532,542 may be any suitable length and is preferably sized to accommodate the particular sealing member 526.

Amendments to existing claims:

Cancel claims 2 and 20-24.

1. (Thrice Amended) A separation element for separating one or more components from a fluid flowing through the separation element, the separation element comprising:

(a) two or more hollow pleated pack sections, each pack section having a plurality of pleats, wherein the plurality of pleats includes roots, crowns, legs extending between the roots and the crowns, an inner periphery at the roots defining an upstream side, and an outer periphery at the crowns defining a ~~downside~~ downstream side and wherein each pleat has a height h greater than (D-d)/2 where D is the outer diameter at the outer periphery of the plurality of pleats and d is the inner diameter at the inner periphery of the plurality of pleats, a retainer disposed around the pleats, first and second ends, and a porous medium comprising a polymeric material or a glass fiber material;

(b) joiner caps attached to at least one end of each of the two or more pack sections, adjacent joiner caps being secured to coaxially connect the pack sections and joiner caps into a hollow separation arrangement being at least about 40 inches in length and having an interior diameter of at least of about 2 inches; and

(c) first and second end caps attached to the hollow separation arrangement, wherein one of the first and second end caps comprises a seal having an outside diameter greater than the largest outside diameter of the hollow separation arrangement, the joiner caps and the end caps including a polymeric, thermoplastic or elastomeric material.

Amendments to the abstract:

ABSTRACT

Separation elements may comprise two or more hollow pleated pack sections, joiner caps, and first and second end caps. The joiner caps are attached to at least one end of each of the two or more pack sections. Adjacent joiner caps are secured to coaxially connect the pack sections and joiner caps into a hollow separation arrangement which is at least about 40 inches in length and which has an interior diameter of at least about two inches. The first and second end caps are attached to the hollow separation arrangement. ~~Separation elements may also comprise a hollow pleated pack and first and second end caps. The hollow pleated pack is at~~

~~least about forty inches in length and has an interior diameter of at least about two inches. The first and second end caps are connected to the ends of the pack. Separation elements may also comprise a pleated pack and an end cap. The end cap includes a first segment and a second segment mounted to one end of the pack. The first and second segments are slideably arranged with one another and the end cap is extendable from a first position to a second position. The separation element may also comprise a pack and an end cap having a first segment, a second segment mounted to a first end of the pack, and a sealing member coupled to at least one of the first and second segments. The first and second segments are movable with respect to each other from a first position in which the sealing member is relaxed to a second position in which the sealing member is compressed by the first and second segments.~~